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EXAMINER	
CIRIC, LJILJANA V	
ART UNIT	**PAPER NUMBER**
3744	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/776,680	IM ET AL.	
	Examiner	Art Unit	
	Ljiljana (Lil) V. Ciric	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2008 and 09 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12-14,16-21 and 33-37* is/are pending in the application.

4a) Of the above claim(s) *13* is/are withdrawn from consideration.

5)☒ Claim(s) *18-21* is/are allowed.

6)☒ Claim(s) *1-9,12,14,16,17 and 33-37* is/are rejected.

7)☒ Claim(s) *10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 September 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office action is in response to the reply filed on December 9, 2008 and the reply filed on July 30, 2008.

2. Claims 1 through 10, 12 through 14, and 16 through 21, and 33 through 37 remain in the application. Of these, claim 13 remains withdrawn as noted in greater detail below, while claims 33 through 37 have been newly added via the reply filed on July 30, 2008 and have not been previously examined.

Response to Arguments

3. Applicant's arguments filed on July 30, 2008 have been fully considered but they are not persuasive.

In particular, applicant argues that the Johnson et al. reference fails to disclose that the semiconductor module includes a plurality of packages as recited by the claims. This is not found persuasive because Johnson et al. (see column 3, lines 39-45) clearly specifies, for example, that the multi-terminal microcircuit semiconductor module 7 "as is well known,...may contain devices, multiple components, and/or integrated circuitry". Multiple components correspond to a plurality of packages.

Applicant furthermore argues that elements 6A' and 6A" of Johnson et al. are not readable on the "portions of the two heat exchange members configured to protrude above the semiconductor module" because (a) elements 6A' and 6A" are only part of one of the heat exchange members and (b) they are configured to overlap the module rather than protrude above. With regard to the former part of the argument, the examiner hereby notes that the aforementioned limitation fails to recite that portions of *each* of the two heat exchanger members are configured to protrude above the semiconductor module". Thus, the features upon which applicant relies (i.e., portions of *each* of the two heat exchanger members) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification,

limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). With regard to the latter part of the argument, applicant is reminded that limitations in pending claims must be broadly interpreted and a broad interpretation of the limitation "configured to protrude above' is readable on an element which is configured to overlap and surround the top of another element, thus protruding above and around the same.

Applicant also argues that Johnson et al. fails to teach the configuration of the first and second heat exchange members as recited in claim 12, for example. Again, this is not found to be persuasive because applicant is interpreting the pending claims in an overly narrow manner. See In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

Applicant's arguments thus fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Election/Restrictions

4. Claims 13 remains withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on March 7, 2007 and on October 19, 2006.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Previously unexamined claims 33 through 37 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 33 through 37, the word "-type" added to “clothespin” in the preamble of the claims renders the claims indefinite because the claim(s) include(s) elements not actually disclosed (those

encompassed by "-type"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(b).

With regard to claim 36 as written, the limitations "wherein *the first and second contact portions of the first and second heat exchange members* are disposed on a first side of the hinge and wherein *the first and second heat dissipating portions of the first and second heat exchange members* are disposed on a second side of the hinge opposite the first side of the hinge" are not clear because, contrary to the implication of the aforementioned limitations, the first and second heat exchange members do NOT each have a first contact portion and a second contact portion NOR do the first and second heat exchange members each have a first heat dissipating portion and a second heat dissipating portion.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed

before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 1 through 6, 12, 14, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al.

Johnson et al. discloses a heat dissipating apparatus essentially as claimed, including, for example: two aluminum heat exchange members or thermally conductive substrates 6A and 6B configured to be placed on both sides of a semiconductor module 7, with portions 6A' and 6A" of the heat exchange members configured to protrude above the semiconductor module 7; and, one of portions 6I and 6H being readable on the connection member or hinge as recited in the claims of the instant application and the other being readable on the C-shaped spring or biasing member or elastic member. Metal plate 6C may be a perforated or porous plate [see column 4, lines 52-65].

The reference thus reads on the claims.

9. As best can be understood in view of the indefiniteness of the claims, claims 33 through 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Gaal et al.

Van Gaal et al. discloses a "clothespin-type" heat dissipating apparatus essentially as claimed, including, for example: a first heat exchange member or finned heat sink plate structure 52 including plural contact portions or cellular pads 72 as well as a heat sink structure surface 56; a second heat exchange member or cover 54; a hinge connecting the first heat exchange member or finned heat sink plate structure 52 and the second heat exchange member or cover 54 [see column 4, lines 25-31; also, see Figure 2]; a printed circuit board 60 having plural heat generating elements 62 thereon and in contact with at least the contact portions 72 of the first heat exchange member or finned heat sink plate structure 52 and with various portions of the cover 54; and, a biasing element or piston and cylinder means 76 disposed between the two heat exchange members [see Figures 2 and 5] configured to draw the printed

circuit board 60 towards the heat sink structure surfaces 56. The planar plastic insulating member 64 is broadly readable on the thermal interface material as recited in claim 37, for example.

The reference thus reads on the claims.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 7 through 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al.

As noted in greater detail above, Johnson et al. discloses a heat dissipating apparatus essentially as claimed, but fails to specifically disclose a thermal interface material layer formed on at least one of the heat exchanger members 6A and 6B. Nevertheless, Official Notice is hereby taken by the examiner that providing a thermal interface material such as a thermal tape, thermal grease, thermal epoxy, or a phase change material between a heat sink type heat exchange member and a semiconductor module or package is notoriously well-known in the art. Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the heat dissipating apparatus of Johnson et al. by specifically providing a thermal interface material between at least one of the heat exchanger members 6A or 6B and the semiconductor module or package in order to improve the heat dissipation therefrom.

Allowable Subject Matter

12. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claims 18 through 21 are allowed.

Conclusion

14. The additional prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner works a flexible work schedule but can normally be reached on most days during the work week between the hours of 10:30 a.m. and 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ljiljana (Lil) V. Ciric/

Primary Examiner, Art Unit 3744